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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,821	12/14/2001	Arjang Fartash	42P11309	3795

7590 07/29/2004  
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EXAMINER
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NORRIS, JEREMY C

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/022,821	FARTASH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jeremy C. Norris	2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2004.  
 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.  
     4a) Of the above claim(s) 27-42 is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-6, 9, 10, 12-15, 17 and 19-26 is/are rejected.  
 7) ☒ Claim(s) 7, 8, 11, 16 and 18 is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 14 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some\*    c) ☐ None of:  
     1. ☐ Certified copies of the priority documents have been received.  
     2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election of Group I, claims 1-26 in the reply filed on 19 May 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Drawings***

The drawings are objected to because the sectional views are not properly crosshatched (see MPEP 608.02). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 9, 10, 12-14, 19, 22, 23, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by US 4,894,030 (hereafter Chavaroux).

Chavaroux discloses, referring to figure 2, a retainer for printed circuit board assemblies comprising: a heat-shrinkable member (2), said heat shrinkable member being configured to receive a coupling member (5) extending from a component; and a retaining member (3) being coupled with said heat-shrinkable member [claim 1], wherein said component is assembled on a printed circuit board (see col. 3, lines 20-30) [claim 2], wherein said printed circuit board forms an opening (see col. 3, line 25), said heat shrinkable member being configured to receive said coupling member via said opening [claims 3, 19, 23], wherein said coupling member is configured to be received within said opening [claim 4], wherein said heat shrinkable member is configured to be received within said opening [claim 5], wherein said heat shrinkable member is sufficiently laterally flexible to permit a surface tension of liquefied solder (3) to substantially guide a substantially horizontal alignment of said component during assembly [claim 9], wherein said heat shrinkable member is configured to activate at a temperature that is less than or substantially equal to a typical solder reflow temperature (see col. 3, lines 1-20) [claim 10], wherein said heat shrinkable member includes a

Art Unit: 2827

channel to receive said coupling member [claim 12], wherein said heat shrinking member comprise heat shrinkable tubing (see col. 3, lines 20-25) [claim 13], wherein said heat shrinkable member is configured to shrinkably engage said coupling member when exposed to a temperature that is less than or substantially equal to a typical solder reflow temperature [claims 14, 22, 26]

Claims 1, 2, 6, 15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,547,395 (hereafter Delamotte).

Delamotte discloses, referring to figures 1, 2, and 4, a retainer for printed circuit board assemblies comprising: a heat-shrinkable member (3), said heat shrinkable member being configured to receive a coupling member (12) extending from a component (8); and a retaining member (4) being coupled with said heat-shrinkable member [claim 1], wherein said component is assembled on a printed circuit board (18) [claim 2], wherein said component is coupled with said component before said component is assembled on said printed circuit board [claim 6], wherein said retaining member is formed from a heat-resistant material (see col. 4, lines 30-35) [claim 15], wherein said retaining member includes an extension, said retaining member being coupled with said heat shrinkable member via said extension.[claim-17].

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 20, 21, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chavaroux.

Regarding claims 20 and 24, Chavaroux discloses the claimed invention as described above except Chavaroux does not specifically disclose a second retainer on a second lead of the component. However, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to secure a second lead of a multi-lead component in a likewise manner. The motivation for doing so would have been to lock the lead in place, making the device more reliable by reducing the chance of the lead

Art Unit: 2827

falling out inadvertently (see col. 3, lines 25-30). Moreover, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co, v. Bemis Co.*, 193 USPQ 8.

Regarding claims 21 and 25, Chavaroux discloses the claimed invention as described above except Chavaroux does not specifically disclose a second retainer on a lead of a second component. However, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to secure a lead of a second component in a likewise manner. The motivation for doing so would have been to lock the lead of the second component in place, making the device more reliable by reducing the chance of the lead falling out inadvertently (see col. 3, lines 25-30). Moreover, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co, v. Bemis Co.*, 193 USPQ 8.

#### ***Allowable Subject Matter***

Claims 7, 8, 11, 16, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claim 7 states the limitation "wherein said component is assembled on one side of said printed circuit board and said retaining member is substantially adjacent to an opposite side of said printed circuit board". This limitation, in conjunction with the other claimed limitations was neither found to be disclosed in, nor suggested by the prior art. Claim 8 states the limitation "wherein said printed circuit board is disposed substantially

Art Unit: 2827

between said retaining member and said component". This limitation, in conjunction with the other claimed limitations was neither found to be disclosed in, nor suggested by the prior art. Claims 11 state the limitation "wherein said heat shrinkable member is configured to resist decomposition at a temperature that is greater than a typical reflow temperature". This limitation, in conjunction with the other claimed limitations was neither found to be disclosed in, nor suggested by the prior art. Claim 16 states the limitation "wherein said heat resistant material is configured to remain functionally stable at a temperature that is greater than or substantially equal to a typical solder reflow temperature. This limitation, in conjunction with the other claimed limitations was neither found to be disclosed in, nor suggested by the prior art. Claim 18 states the limitation "wherein said retaining member forms an aperture, said heat shrinkable member being disposed substantially within said aperture.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following documents disclose retention methods using heat shrink material:

US 4,686,499	Furnish,
US 5,137,478	Graf et al.,
US 5,192,837	Chardon,
US 5,331,513	Hirai et al.,
US 6,231,392	van Woensel,
US 6,632,023	Oqawa wt al..




Art Unit: 2827

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy C. Norris whose telephone number is 571-272-1932. The examiner can normally be reached on Monday - Friday, 9:30 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCSN



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